

an immediate Contact. This Oil being one of the heaviest Oils, and even heavier than Water, is the more likely thus to unite, as its Parts are nearer together. This may be a Hint to the Curious, to discover wherein consists the Difference of Solidity and Fluidity; and likewise shews how much the Colour of Bodies depends on the mechanical Situation of their Parts.

See a like Crystallization from *Thyme*, by Dr. *Neumann* which he calls *Campbora Thymi*, N^o 389 and 431. of these *Transactions*.

VIII. *An Observation of an extraordinary Damp in a Well in the Isle of Wight; communicated in a Letter from Mr. Benj. Cooke, F. R. S. to Mr. Peter Collinson, F. R. S.*

Dear Sir,

HAVING so fair an Opportunity, I send you an Account of the melancholy Effects of a Damp or sulphureous Vapour, which happen'd in this Island, and of which I was an Eye-witness.

In the Month of *June* 1733. a Farmer, in Hopes of finding a perpetual Spring of good Water, sunk a Well, whose Diameter was seven to the Depth of 45 Feet (through a Soil whose Surface was a kind of brick Earth mixt with Sand, which in descending became almost wholly hard coarse yellow Sand); which
Work

Work employed the Labourers about 20 Days, without finding the least Appearance of Water.

At the Distance of about 18 Feet from the Top, a *Stratum* of a mineral Mixture, about nine Inches thick, was dug through, without any Inconvenience; nor were the Workmen in the least incommoded in carrying on the Work, till about the 12th Day after, when towards the Evening they were much annoy'd with a faint suffocating Heat, (which they compar'd to that coming from the Mouth of an Oven) and which, as they were drawn up, was most remarkably perceiv'd, when they came opposite to the mineral *Stratum* above-mention'd, to come out in the Form of a warm sulphureous *Halitus*.

The next Morning, a lusty young Man attempted to go down (hand over hand, as the Workmen call it) by means of a single Rope which was used to draw up the Earth digged out; but as soon as he came opposite to the above-mention'd *Stratum*, he became incapable of sustaining his own Weight, fell down to the Bottom, and died immediately.

Another young Man, not suspecting the Cause, had the Rope nimble drawn up; and having seated himself astride a Cross-stick fixed to the Rope for that Purpose, was hastily let down to his Friend's Assistance; but when he came to the same Distance from the Top, he was observ'd to give the Rope a very great Shock, and when he came to the Bottom, fell down, as the other had done before him, was seiz'd with violent Convulsions, which held him more than Quarter of an Hour, and then he expir'd.

A third Person, in Hopes of fetching up this second before he was quite dead, was tied fast into a
large

large Basket, and let down with more Caution; but when he came to the same Stratum, finding his Breath going, (as he express'd it) he cried out, and was drawn up again; but remain'd in the open Air, for the Space of near half an Hour, pale as dead, panting and speechless.

The dead Bodies were, within three Hours Space, drawn up by the Help of a sort of Tongs, used to fetch Things up from the Bottom of the Sea; but brought such a disagreeable Stench in their Cloaths with them, as made several hardy Men, who assisted in doing of it, vomit.

The next Day a Cat was let down, and at the same Place seiz'd with Convulsions; but being drawn quickly up again, soon came to herself; which Experiment was repeated several times for some Weeks following, by which it was found, that this destructive Vapour was sometimes of a greater and sometimes lesser Force, and sometimes quite gone, so that the Cat felt no Uneasiness; and a lighted Candle, which would sometimes be immediately extinguish'd as soon as it sunk below this deadly *Stratum*, would burn clearly at the very Bottom.

It was very remarkable, that there was a whitish Fog in the Well, so thick that one could but just see the dead Bodies through it.

Water being scarce in that Place, the Well was left open for about eight Months, in Hopes the Damp might at last wholly leave it; but instead of so doing it became worse; and not confining itself within its first Bounds, it overflow'd at the Top, where, when the Air was moist, it appear'd like a thin white Fog; and when the Air was dry, could be perceiv'd like a warm

warm Breath, at all times diffusing a sulphureous Stench, (something like that which arises from Filings of Iron, while corroding with Vinegar) affecting those who came into it with a Giddiness, Shortness of Breath, and Propensity to vomit; so that at last the Well was filled up, being troublesome to the Family which liv'd near it.

I have sent you a little Quantity of the *Stratum* above-mention'd, which is continued to the neighbouring Clift, where, when heated with the Summer's Sun, it gives a noisome sulphureous Smell, and is, after moderate Rains, cover'd with a yellowish efflorescent Salt, very astringent and acid.—On the Shore below there are gather'd *Pyrites*.

I am,

Dear Sir,

Newport (Wight Isle)
1736.

*Your most affectionate
humble Servant,*

Benj. Cooke.

By a Letter since from Mr. Cooke, he says,

I have recollected some further Observations on the Damp. The Vein which was cut through in the Middle of the Well, from whence were emitted the fatal *Effluvia*, is a crude Ore made up with Iron, Sulphur and acid Salts, mix'd with *Pyrites*.

These *Effluvia* were not perceiv'd till after the Vein had imbib'd the Air for several Days.

Whilst the Air continued dry, these *Effluvia* subsided, and lay in the lower Part of the Well, which seem'd

seem'd fill'd near to an exact Level with the *Stratum* from whence they came.

But when the Weather became rainy, the Quantity as well as the *Impetus* of the *Effluvia* increased to such a Degree, as to appear in Mornings over the Top of the Well, in the Form of a Mist, and gave great Annoyance to those that came within its Sphere of Action.

From hence it is worth observing, that the same Damp, according to the Variation of the Weather, is specifically heavier or lighter than the Air.

IX. *An Extract from the Journal Books of the Royal Society, concerning Magnets having more Poles than two; by John Eames, F. R. S. with some Observations by Dr. Desaguliers on the same Subject.*

THE sagacious Dr. *Halley*, in his Account of the Changes of the Variation of the Magnetical Needle, upon the Hypothesis of the Earth's being one great Magnet having four Magnetical Poles, tells us, that he had found two Difficulties not easy to surmount; the one was, that no Magnet he had ever seen or heard of, had more than two opposite Poles, whereas the Earth had visibly four, if not more, &c. I find in looking over the Copy of the Journal-Book of this Honourable Society, Vol. II. an Article in the following Words: